

October 2016 Puzzle

You are equipped with a single 1, 3, 4, and 6 along with the ability to combine them using them only using addition, subtraction, multiplication, and division. Your goal is to create each of the integers from 16 to 25. You may use any number of parentheses to control the order of operations and in each case, you must use all four numbers exactly once. Additionally, you are not allowed to multiply or divide by the number 1.

For example: $10 = 6/3 * (4+1)$

October 2016 Solution

While there multiple expressions that can be used to create some of the numbers, we present only one example for each.

Please note that * represents the multiplication operator and ^ represents the exponentiation operator.

$$16 = (6 + 1 - 3) * 4$$

$$21 = 6 * 3 + 4 - 1$$

$$17 = 3 * 4 + 6 - 1$$

$$22 = 6 * 4 - 3 + 1$$

$$18 = 6 / (4/3 - 1)$$

$$23 = 6 * 3 + 4 + 1$$

$$19 = 3 * 4 + 6 + 1$$

$$24 = 6 / (1 - 3/4)$$

$$20 = 6 * 4 - 3 - 1$$

$$25 = (6 + 1) * 4 - 3$$